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Association of coronary atherosclerosis diffusion, Framimgham score (FRS) and the metabolic syndrome (MS) and its component: anangiography study

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Study to evaluate the relationship between conventional assessment of the global cardio-vascular risk by means of FRS and the MS and its different component with the coronary atherosclerosis severity.About 425 consecutives patients undergoing angiographic coronary exploration. The severity of the atherosclerosis diffusion was assessed using a score assessing the number of vessel-segment with a atherosclerotic plaque (≥20% luminal vessel), patients were classed Into 5 groups . We found a linear correlation between the coronary atherosclerosis diffusion score and the MS and its component (p=0.04 for all factor) and with the mean of the FRS. MS and FSR were assessed respectively for the group score0 at: 47.1%,10.9±8.1,group score1 at 44.8%,15±10 , group score 2 at 68.1%, 17±10 , score3 at 73.3%, 18±10 and score 4 at 62%, 28±15 , the difference was statistically significant, p=0.002 for the MS , and p=0.003 for the FSR Conclusion:Our study shows that increased FRS are associated with the severity of the coronary atherosclerosis diffusion likely for the metabolic syndrome and all its components.

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Comparison of rosuvastatin and atorvastatin on clopidogrel response and lipidic and inflammatory parameters after coronary stenting for acute coronary syndrome

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Objective: To compare the effect of high doses of rosuvastatin and atorvastatin on lipidic, inflammatory parameters and platelet response to clopidogrel after coronary stenting for Non ST Elevation Acute Coronary Syndrome (NSTE ACS).

Background: Use of atorvastatin has been reported to decrease significantly the clopidogrel antiplatelet effect because of cytochrome P450 interaction. Rosuvastatin, a recent developed statin is metabolized via a different pathway. We investigated whether the coadministration of high doses of atorvastatin or rosuvastatin for one month in patients with acute coronary syndromes (ACS) could affect the antiplatelet potency of clopidogrel.

Methods and Results: 138 patients undergoing coronary stenting for NSTE ACS were prospectively included and randomized to rosuvastatin 20 mg (n=69) or atorvastatin 80 mg (n=69). They received at discharge 75 mg aspirin and 150 mg clopidogrel. Platelet reactivity indexes VASP and ADP-induced aggregation were used to assess clopidogrel response. After one month, clopidogrel response was similar among patients receiving rosuvastatin and atorvastatin: PRI VASP 44.6.±2.5% vs 46±2.3% respectively, p=0.66 and ADP-Ag 53.3±1.7% vs 50±2.1% respectively , p=0.23..Inflammatory and lipid parameters were similar between the two groups and the number of patients reaching the target LDL cholesterol of less than 2.59 mmol/L was similar in both groups: 74 % (n=51) with rosuvastatin and 71% (n=49) with atorvastatin. P=0.85.

Conclusion: our present study suggests that in high risk patients, high dose of atorvastatin has no negative effect on high maintenance dose of clopidogrel, while providing same benefit on cholesterol lowering.

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Immediate and long term outcomes of the percutaneous coronary intervention of the ostia of the major epicardial coronary arteries

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Background: The percutaneous treatment of coronary ostial disease represent a challenge for the interventional cardiologist and is associated with higher procedural and long term complication rates.

Aim of the study: To evaluate the immediate and long term outcomes of the percutaneous coronary intervention of the major coronary artery ostial lesion defined as a lesion arising within 3 mm of the vessel origin (LAD, CX, and RCA)

Methods: A retrospective study on 80 patients, who underwent PCI for ostial lesions of the left anterior descending, left circumflex, and right coronary arteries over a period from 2001 to 2009 in the cardiology department of the University Hedi Chaker Hospital of Sfax

Results: The mean follow up of our patients was 31.17 months (±27, 5 months) .The mean age of our patients was 57.9 years; male predominance was noted with sex ratio 2 /1. The Myocardial infarction (STEMI) was the most common reason for admission (37 patients). The remaining patients have either none elevated ST- Acute Coronary Syndromes (21 patients) nor stable effort angina (22 patients).

The target lesion was the left anterior descending in 72.5%, the right coronary artery in 21.3% and the circumflex artery in 6.3%.

The mean degree of stenosis was 82.6% (± 14.11) with a mean length of 16.30 mm (± 6, 6 mm). The PCI technic was mainly direct stenting in 54.4%, a predilatation before stenting in 30.4% and a post dilatation was necessary in 3.8%. PTCA with balloon only has been practiced in 11.4% of cases. A kissing balloon (LAD_CX) was performed in 18 patients (22.8%).

We used a bare metal stent in 93.1% of cases and drug eluting stent for 6.9% of our population study. 5 PCI were complicated: 2 cases of dissection, 2 effect snow plows (LAD – CX) and one coronary perforation with a procedural complication rate of 6.3%.

42 patients (54.5%) were readmitted after PCI. Target Lesion revascularization (TLR) was 18, 5% and the rate of composite MACE (Death, non fatal MI, TLR) was 30 %

Conclusion: PCI of ostial narrowings of the major epicardial coronary arteries was relatively safe. However it was associated with a high incidence of adverse long term outcomes.

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Calcification in HIV-infected patients, assessed by coronary artery calcium score (CACS): the VIHCAC study

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Background: Human immunodeficiency virus (HIV) – infected patients may be at higher cardiovascular risk than the non-HIV population. The VIHCAC study aimed to evaluate the Coronary Artery Calcium Score (CACS) in comparison with the Framingham Risk Score (FRS) as a predictor of cardiovascular risk.

Methods: Single-center, prospective cross-sectional study of patients with HIV infection for more than 5 years and no history of coronary disease. Cardiovascular risk was estimated by the Framingham Risk Score (FRS), CACS was calculated using the Agatston method, based on coronary multidetector computed tomography results. A CACS >10 was defined as abnormal. Interleukin (IL)-6, ultra-sensitive C-reactive protein (us-CRP), glomerular filtration rate (GFR), and fasting lipids were measured at enrolment.

Results: 187 patients (mean age 48.7 years, mean HIV disease duration 12.6 years and mean anti-retrovirus exposure 11.1 years) were explored. FRS was <10% in 113; 10-20% in 66; and >20% in 8. CACS was abnormal in 45 patients (10-100 in 26; 101-300 in 14; and >300 in 5). CACS and FRS correlated poorly (r=0.15, p=0.04). Patients with abnormal CACS were older (53.1 vs. 47.4 years, p=0.0001), had lower GFR (85.7 vs. 98.0 ml/min, p=0.02), and

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higher LDL cholesterol (13.7 vs. 12.8 mg/dL, p=0.07). By contrast, there were no differences between the two groups as regards duration of HIV infection, time of exposure to ARVs, (whether considered as a whole or by class), us-CRP, or IL-6. Of the 45 patients with an abnormal CACS, 41 (91.1%) had FRS <20% and would not have been eligible for cardiovascular prevention treatment. These 41 patients represented 22.9% of all patients with FRS <20. None of the 5 patients with CACS > 300 had been identified as high cardiovascular risk patients by FRS.

Conclusion: In HIV-infected patients, CACS identified presence of coronary atherosclerosis in 22.9% of patients who were deemed to be at low to intermediate cardiovascular risk based on FRS.

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Do platelet activity assessment and genotyping help predict outcome in real world management of patients with ACS?

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Purpose: it has been postulated that outcome of poor metabolizers of clopidogrel may be worse in ACS patients. Data about the interest of assessing platelet reactivity and genotyping in predicting outcome of patients with ACS taking clopidogrel is still conflicting.

Methods: Prospectively, 120 successive patients (76,7% men, mean age=60+/–12,2 years) with ACS 45% STEMI) were included. Patients were excluded if not eligible to clopidogrel therapy or to the platelet activity test. Patients were managed according to ESC guidelines. Platelet activity was assessed by a VerifyNow P2Y12 test more than 24h after a 600mg clopidogrel loading dose. DNA was extracted for genotyping of CYP1A1 and CYP2C19 (*1,*2,*3).MACE (death, infarction, stroke, coronary revascularization) was assessed at 6 months.

Results: poor platelet inhibition (PRU>230) was noted 54 (46,6%) patients. CYP1A1 and CYP2C19 low metabolizers (homo and heterozygosis) were respectively 23.1% and 37,5%. MACE at 6 months was noted in 15 (12.5%) patients. No significant correlation was found between MACE and platelet reactivity test nor MACE and genotypes CYP1A1 and CYP2C19. combination of platelet response and resistant genotypes didn't help to predict MACE.

Conclusion: despite the high rates of poor responders to clopidogel in this study, assessed by the verify now P2Y12 test and by genotyping (CYP1A1 and CYP2C19), no correlation has been found with MACE at 6 months.

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"Litigious" exercise training: contribution of myocardial scintigraphy

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Introduction: In front of an important request for examination of myocardial scintigraphy following a test of "litigious" effort, we are propose to complete this work futurology with an aim of answering the question suggested in title, in referent with the results of the myocardial tomoscintigraphy. Materials and methods: Between January 2008 and May 2010, we investigate 186 consecutive patients presenting of the coronary risk factors addressed for myocardial tomoscintigraphy in front of a test of litigious effort on the electric level carried out within the framework of a search for quiet ischemia. Within the service of nuclear medicine all the patients profited from a test of effort according to the protocol of Bruce, followed by an examination tomoscintigraphy with the MIBI. In the event of a disorder perfusionnel with the myocardic scintiscanning, the patient is taken again for an examination of rest.

Results: There are 105 women and 81 men whose Middle Age is respectively of 57,4 ± 9,3 years and 59,6 ± 8,2 years. The patients are diabetics in 66% of the cases, 78% are women, hypertensive in 53%. The other risk factors are also found with variable proportions. The tests of effort carried out were all maximum. Four 92% of the tests of effort are negative clinically and "wrongfully positive" electrically. The TSM of these patients is normal in 100% of the cases. In 8% of the cases, the test of effort is positive electrically, the TSM is normal not detecting any disorder perfusionnel in 73% of the cases, for the 4 other patients it objectifies disorders perfusionnels; the coronarography of these patients is pathological but without significant lesions except for a patient. This last had in fact finished its test of effort by a non-constant ventricular tachycardia suggesting a severe ischaemia confirmed with the coronarography.

Conclusion: A quite critical reading of under misalignment of the segment ST during a test of effort diagnoses in particular at the time of the search for a quiet ischemia, can avoid the recourse to other investigations

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Copeptin has a good negative predictive value in negative troponin I patients for ruling out an acute myocardial infarction in the emergency department

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Purpose: the aims of this study were to evaluate the novel biomarker copeptin in combination with troponin I (cTnI), in patients with chest pain presenting to the emergency department (ED), and to determine whether copeptin may allow for a rapid rule out of acute myocardial infarction (AMI). Previous data showed that combined measurement of copeptin and troponin T(cTnT) improved diagnostic performance for rapid rule out of AMI.

Methods: in 97 patients presenting to the ED with suspicion of AMI, we performed at admission, a conventional cTnI assay and a novel copeptin assay.

Results: of 97 patients, 44 (45.4%) had the final diagnosis of AMI, 11(11.3%) of unstable angina and in 42 (43.3%) an acute coronary syndrome (ACS) could be excluded. Patients with AMI, had copeptin levels higher than patients with non ACS (20.12 vs 8.97pmol/l p<0.001). At admission, the aera under curve (AUC) of the receiver-operating characteristic (ROC) curve for the association cTnI / copeptin was not higher than AUC of cTnI (respectively 0.93 vs 0.89; p=0.177). In 60 patients with negative cTnI (< 0.044 µg/L), copeptin (< 14 pmol/L) may allow to rule out AMI with sensitivity of 91.0% and negative predictive value (NPV) of 97.4%.

Conclusions: conversely to what has been demonstrated for cTnT, no significant difference in AUC was found when Copeptin/cTnI was compared to cTnI alone. This can be explained by the limited set of patients and the relative good result of cTnI AUC. Only combined use of copeptin in negative cTnI patients might help in ruling out AMI because of its good NPV and hence improve triage of patients presenting with chest pain in ED.

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The myocardial infarction of the young subject. Moroccan experience

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Purpose: The aim of this work is to study the specific epidemiological, clinical, angiographic and evolving myocardial infarction (MI) of the young subject.

Materials and methods: It is a descriptive retrospective study ruled in the two services of cardiology of the UHC Mohammed VI de Marrakech from January 2005 to October 2009. We included the patients admitted for MI and paired them in two groups: group1 composed of young patients under 45 years for men and 55 years for women, and group 2 of old patients beyond these age limits. Patients in both groups were investigated focusing in epidemiological analysis of cardiovascular risk factors, an ECG, a biological assessment and a Doppler ultrasound cardiac examination (TTE). The coronarography wasn't realized in all cases.

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